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ABSTRACT

Vietnam veterans enrolled in special reading classes at a community college were the subjects in a comparison of the effects of presenting programed spelling materials by a visual and by an auditory approach. Two groups of 30 students each were randomly selected from 120 veterans enrolled in the special reading classes: during an eight-week period, one group was taught through a visual programed approach while the other group used a cassette-recorded version of the same materials. Spelling achievement gain was determined by a pretest-posttest administration of a standardized spelling test, and students were classified as above-average or below-average in intelligence on the basis of IQ scores on a standardized intelligence test. Analysis of the results indicated that (1) there was no statistically significant difference between the spelling achievement mean gain scores of the two groups: (2) within the groups, the difference in spelling achievement mean gain scores between students with above-average and with below-average intelligence was not statistically significant: and (3) within each of the intelligence ability groups (above-average and below-average), there was no statistically significant difference in spelling achievement mean gain scores between students taught by the visual and by the auditory approach. (GT)

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# DIFFERENCES IN SPELLING ACHIEVEMENT OF JUNIOR COLLEGE STUDENTS INSTRUCTED BY AN AUDITORY AND A VISUAL APPROACH

The intellectual climate of the Eighteenth Century was conducive to the standardization of the English language. Samuel Johnson's Dictionary of the English Language provided the standard for English spelling (Williams, 1971). Since literacy had become somewhat a status symbol, scholars strove to know the correct form of every word.

Even though spelling is not considered a major subject in most secondary and college education curricula, the fact remains that spelling errors detract from the effectiveness of any written work. The disadvantages of poor spelling ability and the advantages of good spelling ability certainly justify careful, extensive research and planning for methods and techniques to improve the teaching of spelling.

In spite of the value placed on the importance of good spelling ability, most educators have not promoted the teaching of spelling beyond the elementary grades. Hildreth (1955) summarized "objections to the traditional methods of teaching spelling." Three of her main objections

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were failure to relate to curriculum, rise of conventional lists, use of words unrelated to students' needs. These practices were adequate neither for secondary preparation nor vertical curriculum.

Since both reading and writing skills become more complex as the individual moves upward in school, so do spelling skills. While spelling classes are a rarity beyond the elementary and junior high grades, the importance of good spelling is never denied. Spelling has been and continues to be handled in the upper grades in various ways. Several auto-instructional techniques for teaching spelling are used at the present time. There is, however, a lack of evidence that one technique of teaching spelling is superior to another. Certainly, there is insufficient evidence to suggest such a superiority at the college level. If such a superiority can be established, it could simplify the teaching of spelling for both the teacher and the student. The purpose of this study was to compare two methods of teaching spelling to determine whether one was superior to the other.

## Statement of the Problem

The problem was to determine whether there were significant differences in mean gain raw scores in spelling when junior college students were taught by the visual or auditory approach.

## Procedures

Vietnam veterans enrolled in Special Reading Classes at a community junior college were used to determine the effects of presenting programmed spelling materials by two different methods. Two groups of thirty (N=30) each were randomly selected from a total veteran/student population

enrolled in the reading classes of approximately one-hundred twenty (N=120) veterans. One group, the Visual group, was taught spelling with Programmed Spelling Demons. The second group, the Auditory group, used a cassette-recorded version of the same programmed materials utilized by the Visual group. The Auditory and Visual groups were further subdivided into above-average intelligence (N=15) and below-average intelligence (N-15) based on IQ scores taken from the Slosson Intelligence Test.

Spelling achievement gain was determined by a pretest-posttest administration of the McGraw-Hill Basic Skills System: Spelling Test. The pretest was given during the first week of Summer School classes, and the achievement posttest was given eight weeks later at the end of the experiment. Changes in raw scores of Visual and Auditory groups were compared collectively and as subgroups at both levels of intelligence.

Results

Five null hypotheses were formulated and "t" tests were applied to determine whether statistically significant differences exist. The .05 confidence level was utilized as the criterion level for determining statistical significance.

$Ho_1$ There is no statistically significant difference between the Auditory and Visual groups' pretest-pottest spelling achievement mean gain scores.

The results indicated that there was no statistically significant difference between the mean gain scores of the group instructed by the auditory method and the group instructed by the visual method. Though not statistically significant, however, the greater gain was made by the

Auditory group (see table 1).

TABLE 1

CALCULATED t-VALUE COMPARING THE MEAN GAIN SCORES OF THE AUDITORY GROUP AND THE VISUAL GROUP

| Student/Veteran Group | Pretest-Posttest Gain Scores | | t Value |
|---|---|---|---|
| | Mean | S.D. | |
| Auditory Group (N=30) | 4.167 | 4.719 | 1.912 |
| Visual Group (N=30) | 1.567 | 5.766 | |

$p > .05$

Two of the hypotheses were formulated to determine the effect of intellectual ability within each of the instructional groups.

$Ho_2$ There is no statistically significant difference between the spelling achievement mean gain scores of the above-average intelligence group and the below-average intelligence group instructed the Auditory approach.

$Ho_3$ There is no statistically significant difference between the spelling achievement mean gain scores of the above-average intelligence group and the below-average intelligence group instructed by the Visual approach.

Results indicated that within both instructional groups the students with above-average intelligence made greater gains in spelling achievement than the students of below-average intelligence. The difference, however, in mean gain scores was not statistically significant (see table 2).

TABLE 2

CALCULATED t-VALUES COMPARING MEAN GAIN SCORES OF INSTRUCTIONAL GROUPS BY INTELLECTUAL ABILITY GROUPS

| Student/Veteran Instructional Groups | Pretest-Posttest Gain Scores | | | | t Value |
|---|---|---|---|---|---|
| | Above-Average (N=15) | | Below-Average (N=15) | | |
| | Mean | S.D. | Mean | S.D. | |
| Auditory Group (N=30) | 4.530 | 3.444 | 3.800 | 5.692 | 0.425 |
| Visual Group (N=30) | 2.467 | 4.575 | 0.670 | 6.630 | 0.864 |

$p > .05$

Two additional hypotheses were formulated to determine the effect of instructional approach within each of the intellectual ability groups.

$H_{o4}$ There is no statistically significant difference between the spelling achievement mean gain scores of students of above-average intelligence when instructed by the Auditory approach and when instructed by the Visual approach.

$H_{o5}$ There is no statistically significant difference between the spelling achievement mean gain scores of students of below-average intelligence when instructed by the Auditory approach and when instructed by the Visual approach.

Both the above-average intelligence group and the below-average intelligence group made slightly greater gains in spelling achievement when instructed by the auditory approach than when instructed by the visual approach, but the gains were not statistically significant for either group (see table 3).

TABLE 3

CALCULATED t-VALUES COMPARING MEAN GAIN SCORES OF INTELLECTUAL ABILITY GROUPS BY INSTRUCTIONAL GROUPS

| Student/Veteran Intellectual Ability Groups | Pretest-Posttest Gain Scores | | | | t Value |
|---|---|---|---|---|---|
| | Auditory Group (N=15) | | Visual Group (N=15) | | |
| | Mean | S.D. | Mean | S.D. | |
| Above-Average (N=30) | 4.530 | 3.444 | 2.467 | 4.575 | 1.395 |
| Below-Average (N=30) | 3.800 | 5.692 | 0.670 | 6.630 | 1.387 |

$p > .05$

## Summary

The results of the study did not establish that either the auditory approach or the visual approach was a superior instructional method for fostering spelling skills of junior college students. This applied for students of different intellectual abilities. An inspection of the data for individuals, however, indicated that there may be other intervening variables which would make one approach superior to the other for certain students. Further research is essential to determine the learning mode which would be most effective for each student.

## References

Hildreth, Gertrude. Teaching Spelling: A Guide to Basic Principles and Practices. New York: Holt, 1955.

Williams, Ralph. "Teaching of Spelling." Encyclopedia of Spelling (1971), 387.